

IN THE CLAIMS

1. (previously amended) A method of lining a plurality of two or more cylinder bores of a reciprocating piston internal combustion engine aluminum engine block comprising:

spraying said cylinder bores with a an aerodynamically focused, gas-dynamic cold spray to coat said cylinder bores with a lining material differing from a material of said engine block, said spray coming from rotatable nozzles having unified up and down relative movement with said engine block, and said nozzles being at an angle at of 30° plus or minus 15° with a surface of said cylinder bores, wherein said cylinder bores are coated in multiple passes.

2. (original) A method as described in claim 1, further including initially coating said cylinder bore with a first material having a first level of heat transfer resistance, and then coating said cylinder bore with a second material having a second level of heat transfer resistance greater than said first level.

3. (original) A method as described in claim 1, further including first coating said cylinder bore with a first material having a first level of adhesion with said aluminum of said engine block, and then coating said cylinder bore with a second material having a second level of adhesion lower than said first material, and said second material having a hardness greater than said first material hardness.

4. (original) A method as described in claim 2, further including first coating said cylinder bore with a first material having a first level of adhesion with said aluminum of said engine block, and then coating said cylinder bore with a second material having a hardness greater than said first material hardness.

5. (canceled)

6. (previously amended) A method as described in claim 1, wherein said nozzles are translated up and down through said cylinder bore.

7. (previously amended) A method as described in claim 1, wherein said nozzles are positioned along a longitudinal center axis of said cylinder bores.

8-19. (canceled)

20. (previously amended) A method as described in claim 1 further including initially coating said cylinder bores with a first material, and then coating said bores with a blend gradient of said first material and a second material, and then coating said bore with said second material.

21. (previously presented) A method as described in claim 20 wherein said first material has a lower thermal resistance and wear resistance than said second material.

22. (previously presented) A method as described in claim 1 wherein said first material is sized between 10-45 microns and said second material is sized less than 5 microns.

23. (previously presented) A method as described in claim 20 wherein said first material is sized between 10-45 microns and said second material is sized less than 5 microns.

24. (currently amended) A method of lining a plurality of cylinder bores of a reciprocating piston internal combustion engine aluminum engine block comprising:

spraying said cylinder bores with a an aerodynamically focused, gas-dynamic cold spray to coat said cylinder bores with materials differing from a material of said engine block, said spray coming from nozzles having unified up and down relative movement with said engine block, and said nozzles being at an angle of 30° plus or minus 15° with surfaces of said cylinder bores, said method including initially coating said cylinder bores with a copper material, and then coating said bores with a blend gradient of copper and a wear material, and then coating said bores with said wear material.